What Is Claimed Is:

1. A filter for trapping foreign matter comprising:

an inflow chamber (3a, 5a) into which a fluid flows;

an outflow chamber (11c) from which flows the fluid that has flown into said inflow chamber (3a, 5a); and

a filter element (3) partitioning said two chambers, wherein

said inflow chamber (3a, 5a) has a structure (5, 7) in which the fluid that flows into said inflow chamber (3a, 5a) is spouted up from the bottom portion of said inflow chamber (3a, 5a) and produces a rising flow of said fluid such that is directed toward said filter element.

2. The filter for trapping foreign matter of claim 1, wherein

said inflow chamber (3a, 5a) has an inlet (13i) in the upper part thereof and comprises a guide (5) that directs the fluid that has flown in from said inlet (13i) toward the lower part of said inflow chamber (3a, 5a), directs it toward the bottom portion (7) of said inflow chamber (3a, 5a), causes it to rise from the bottom portion

(7), and guides it so that it falls upon the filter element (3).

3. The filter for trapping foreign matter according to claim 2, wherein the cross section area of a flow path between said guide (5) and the bottom surface of said inflow chamber (3a, 5a) is narrowed so as to increase the flow velocity of said fluid.

4. The filter for trapping foreign matter according to claim 1, wherein said inflow chamber (27a) has an inlet (25a) in the bottom portion thereof and is constructed so that the flow of the fluid that has flown from the inlet (25a) into said inflow chamber (27a) rises from said bottom portion.

5. The filter for trapping foreign matter according to claim 4, wherein said inflow chamber (27a) has a guide (29) that forcibly guides to said filter element (27) the rising flow of the fluid that has flown from the bottom portion of the inlet (25a) into said inflow chamber (27a).

6. The filter for trapping foreign matter according to claim 1, wherein said inflow chamber (3a, 5a) has a streamline shape (7) preventing the stagnation of the fluid.

7. The filter for trapping foreign matter according to claim 1, further comprising a differential pressure sensor (9) for detecting the difference in pressure between said inflow chamber (3a, 5a, 11c, or 31c) and said outflow chamber (31c or 11c).

8. A filter for trapping foreign matter comprising:

an inflow chamber (3a) into which a fluid flows;

an outflow chamber (11c) from which flows the fluid that has flown into said inflow chamber (3a); and

a filter element (3) partitioning said two chambers, wherein

a guide (33) for forcibly guiding the flow of the fluid that has flown into said inflow chamber (3a) toward said filter element (3) is held inside said inflow chamber (3a).

9. The filter for trapping foreign matter according to claim 8, further comprising a differential pressure sensor (9) for detecting the difference in pressure between

said inflow chamber (3a, 5a, 11c, or 31c) and said outflow chamber (31c or 11c).

10 A filter for trapping foreign matter comprising:

an inflow chamber (11c or 31c) into which a fluid flows;

an outflow chamber (31c or 11c) from which flows the fluid that has flown into said inflow chamber (11c or 31c); and

a filter element (31) partitioning said two chambers, wherein

said filter element (31) comprises:

a target trapping element (31a) for trapping foreign matter which is the target; and

a fall-off preventing element (31b) for preventing said foreign matter which is the target trapped by said target trapping element (31a) from falling off, the fall-off preventing element (31a) being provided on the side surface of the inflow path of said target trapping element.

11. The filter for trapping foreign matter according to claim 10, further comprising a differential pressure sensor (9) for detecting the difference in pressure between

said inflow chamber (3a, 5a, 11c, or 31c) and said outflow chamber (31c or 11c).

9. The filter for trapping foreign matter according to claim 1, 7, or 8, further comprising a differential pressure sensor (9) for detecting the difference in pressure between said inflow chamber (3a, 5a, 11c, or 31c) and said outflow chamber (31c or 11c).